JVC

SERVICE MANUAL

MODEL

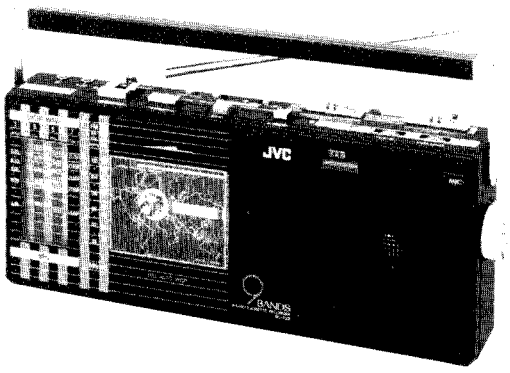
RC-S22 C/W/JW/WH

FM-AM-SW

RC-S22 L/LB/LD

FM-MW-LW-SW

9-BAND RADIO CASSETTE RECORDER



No. 1534
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Specifications

Frequency range : FM 88–108 MHz
AM/MW 540–1600 kHz
LW 150-350kHz (L/LB/LD)
SW1 5.95–6.2 MHz
SW2 7.1–7.3 MHz
SW3 9.5–9.8 MHz
SW4 11.7–12.0 MHz
SW5 15.1–15.45 MHz
SW6 17.7–17.9 MHz
SW7 21.45–21.75 MHz (JW/W/C/WH)

Antennas : Telescopic antenna for FM and SW1–SW7 (C/W/JW/WH) SW1-SW6 (L/LB/LD)
Ferrite core antenna for AM (MW) & SW1

Track system : 2-track, monaural

Wow and flutter : 0.2% (WRMS)

Frequency response : 100 Hz – 8 kHz
(Speaker terminals: NORM)

S/N ratio : 40 dB (NORM)

Rewind and fast-forward time : Approx. 105 sec. (C-60 cassette)

Speaker : 8 cm (3-3/16") x 1, 8 Ω

Motor : Capstan (Electronic governor)

Heads : R/P ; permalloy
Erase ; Magnet

Power output : 1.1 W max. (8 Ω)

Jacks : Earphone x 1
MIC x 1
Ext. DC 6V x 1

Power supply : DC 4.5 V (3 "AA" size cells) (C/W/JW/WH)
DC 45 V (3"R6" size celles)

Power consumption : 5.4 W AC (using the AC adaptor)

Dimensions : 243.5(W) x 104(H) x 71.5(D) mm
(9-5/8" x 4-1/8" x 2-7/8")

Weight : 0.75 kg (1.65 lbs) (without batteries)

Design and specifications are subject to change without notice.

Sefety Precoution

Safety Component Parts List ⚠

Ref.No.	Parts No.	Parts Name	Remarks	Q'ty
R1	QRS188J-181	M.G. Resistor	180Ω 1/8W	1
R12	" -470	"	47Ω "	1
R302	" -220	"	22Ω "	1
R304	" -680	"	68Ω "	1
R305	" -221	"	220Ω "	1
R307	QRD161J-101	Carbon Resistor	100Ω 1/6W	1
IC4,5	TA7331P	IC	Power Amp	2
—	XDE-5A3LE	Motor		1

⚠ Safety mark

Safety is very important with this unit. When replacing the parts marked ⚠ , be sure to use only those designated parts. The designated resistors, diodes, transistors become hot in use. When replacing, be sure to secure them with a distance of more than 5 mm from the circuit board. In addition, they are banded together to avoid touching other wiring, recheck this point as well after repair.
The wiring of the primary side should be wound more than one and half times, then soldered.

Controls and Connections

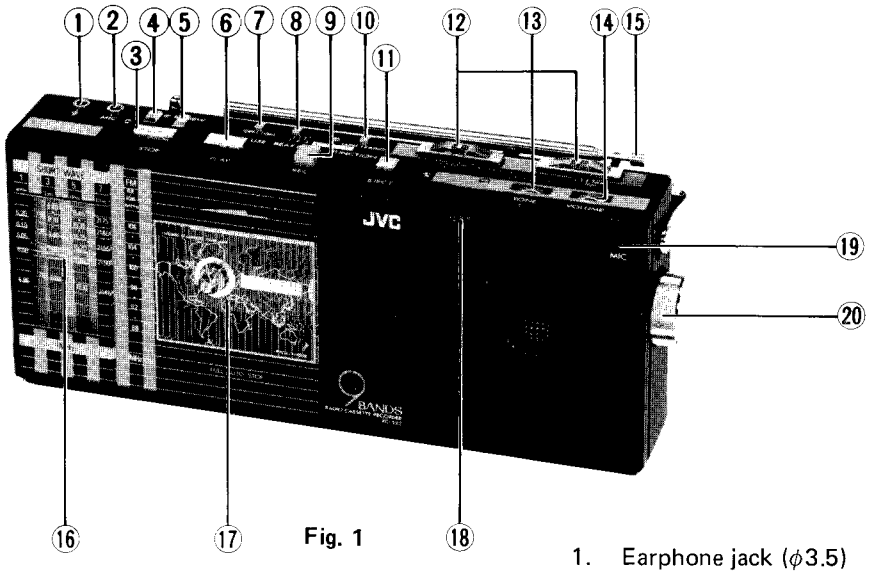


Fig. 1

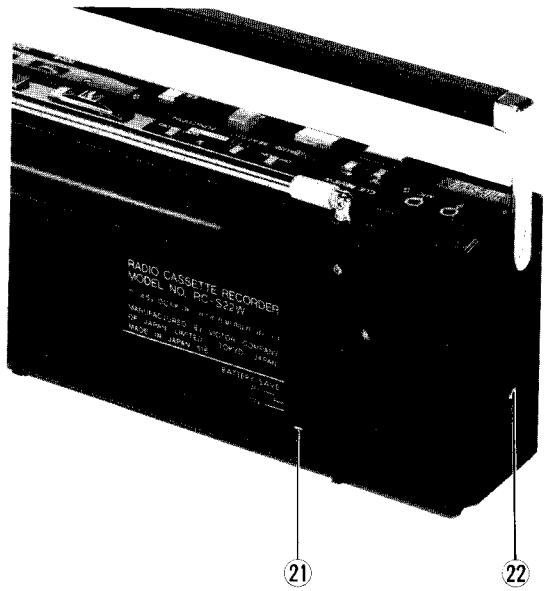


Fig. 2

1. Earphone jack (ϕ3.5)
2. MIC jack (ϕ3.5)
3. STOP button
4. CUE button
5. REVIEW button
6. PLAY button
7. PAUSE switch
8. BEAT CUT switch
9. REC button
10. FUNCTION switch (TAPE/RADIO OFF/ RADIO)
11. EJECT button
12. BAND SELECTOR switch (AM/FM/SW1–7)
13. TONE control
14. VOLUME control
15. Telescopic antenna
16. Tuning pointer
17. Cassette door
18. Tape counter/Reset button
19. Built-in Microphone
20. Tuning knob
21. BATTERY SAVE switch
22. DC input jack (DC 6 V)

How To Engage Dialrope

1. Turn the dial drum fully counterclockwise (to the lowest frequency).
2. Use tetron cord (850 mm long and 0.5 mm in diameter) with applied micro wax.
3. Install the string in the sequence of the numbers.

When removing the P.W. board, leave the dial string as it is set on the drum.

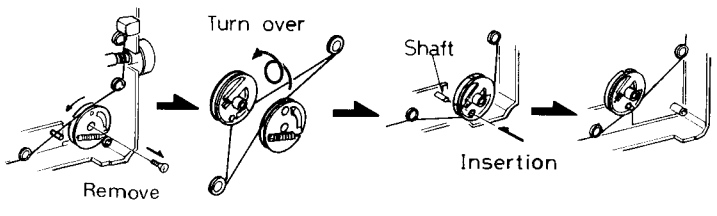


Fig. 3

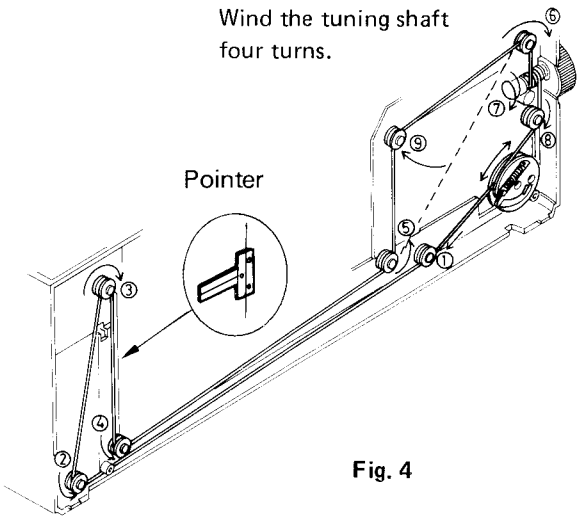


Fig. 4

Main Parts Location

■ **Chassis Base Assembly**

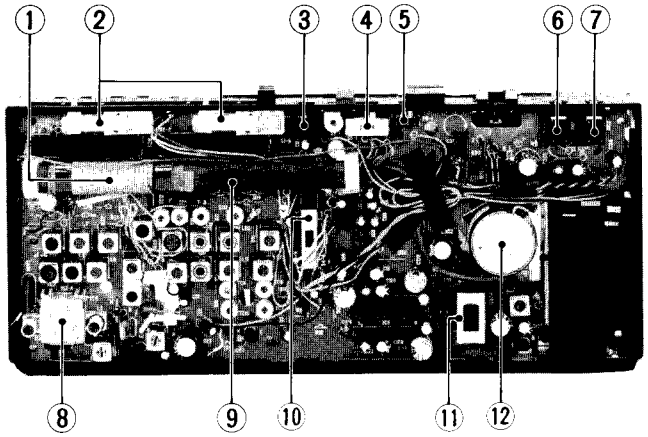


Fig. 5

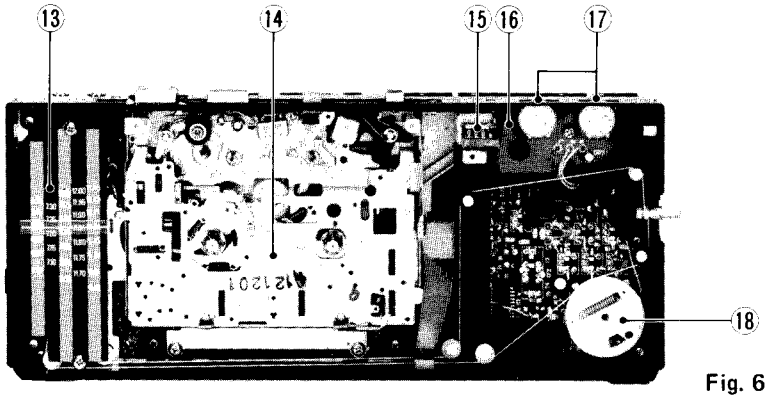


Fig. 6

1. Bar antenna assembly (ferrite core)
2. BAND SELECTOR switch
3. FUNCTION switch (TAPE/RADIO)
4. BEAT CUT switch
5. PAUSE switch
6. MIC jack
7. Earphone jack
8. V. capacitor
9. Main P.W. board assembly
10. P.B./Rec slide switch
11. BATTERY SAVE switch
12. Motor
13. Dial scale
14. Mechanical assembly
15. Tape counter/Reset button
16. V. resistor P.W. board assembly
17. V. resistor assembly
18. Dial drum

■ **Mechanical Parts**

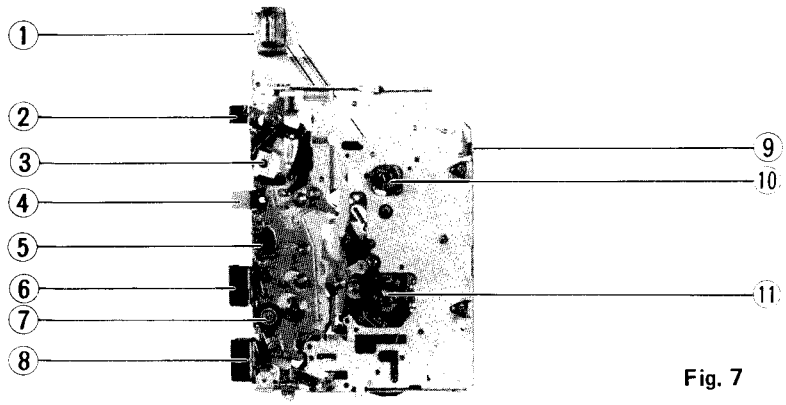


Fig. 7

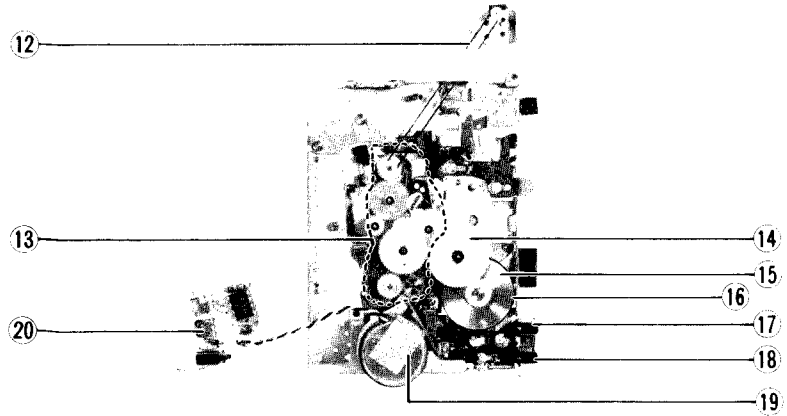


Fig. 8

1. Counter assembly
2. Eject button
3. Magnetic erase head
4. REC button
5. R/P head
6. PLAY button
7. Pinch roller arm assembly
8. STOP button
9. REC safety lever
10. Supply reel disk
11. Take-up reel disk
12. Counter belt
13. Reel disk bracket assembly
14. Sub gear
15. Flywheel assembly
16. Main belt
17. REW button
18. FF button
19. DC motor
20. Governor motor control C. board

Removal of the Main Parts

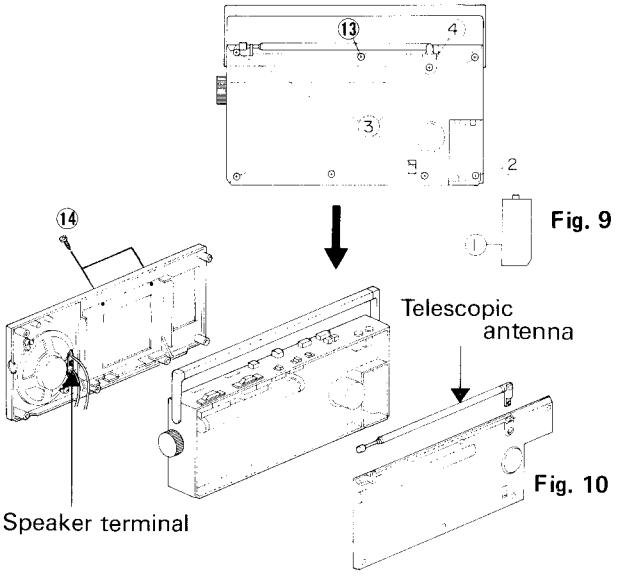


Fig. 9

Fig. 10

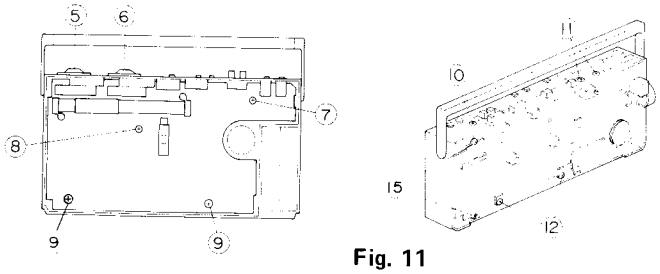


Fig. 11

1. **Rear and Front cabinets**
   1) Remove the battery cover from the Rear cabinet.
   2) Remove 7 screws (2), (3) and (13).
      (2): SPSF2612R (13): SPSP 2605R
      (3): SPSF2625R
   3) Push the EJECT button to open the cassette door and remove 2 screws (14).
   4) To pull out the rod antenna from the rear cabinet, remove a screw (4) (SPSP2606R).
   5) Unsolder the speaker terminal.
2. **Dial back**
   1) Remove 2 screws (15) (SBSF2005Z).
3. **Amplifier P.W. board assembly**
   1) Remove 2 switch knobs (5) and (6) (Band selector switches).
   2) To remove the Amp. P.W. board assembly, remove 4 screws (7), (8), (9) and the dial cord, or see fig 3.
      (7) SPSH1730M
      (8) VKZ4013-001
      (9) SBSF2606Z
4. **Cassette mechanism assembly**
   1) Remove 2 screws (7) and (8) (for fastening the Mecha. assembly and the Amp. P.W. board), 3 screws (10), (11) and (12).
      (10) SPSH1740N
      (11) SPSH1740N
      (12) SBSF2608Z

Removal of Cassette Mechanism parts

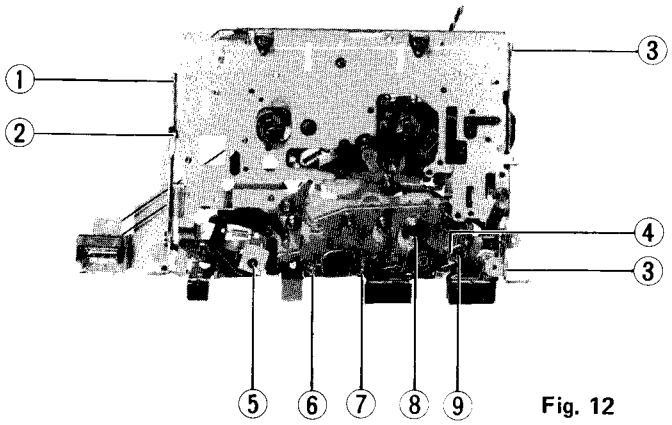


Fig. 12

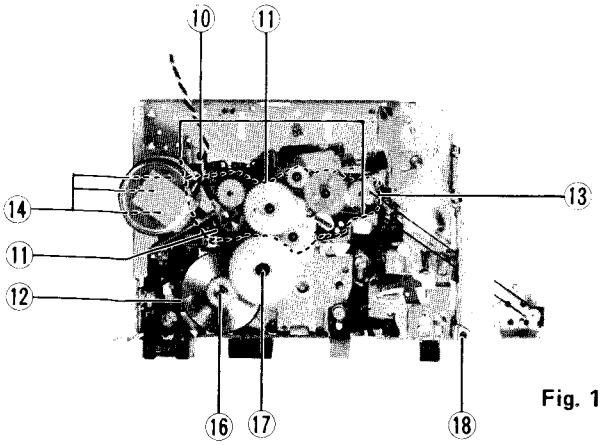
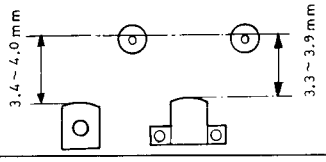
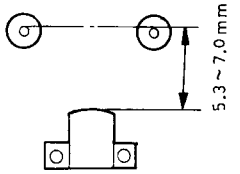


Fig. 13

1. **Pinch roller assembly**
   Remove an E-ring (9) holding the assembly.
   Pull it off from the shaft.
2. **R/P head**
   1) Unsolder wiring connected to the head, then remove a screw (7) and looseing a screw (6)
3. **Erase head**
   Remove a screw (5)
4. **Motor assembly**
   Remove 3 screws (3), (10) to the motor bracket, then remove 3 screws (14).
5. **Reel disk bracket assembly** (13)
   Remove 4 screws (11).
6. **Sub gear**
   Remove a special washer (17).
7. **Flywheel assembly**
   Remove an E-ring (8) and pull out the flywheel.

Adjustment of Cassette Mechanism

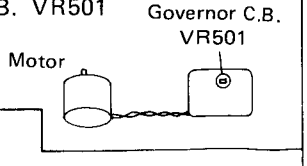
When cassette mechanism parts are replaced, be sure to check the following items.

Items	Rating	Test Method	Test Used
1. Power supply voltage	Rated voltage: DC 4.5 V Motor operating voltage range: 2.3–4.5 V	Constant supply voltage	–
2. Tape speed	4.8 cm/sec. +3 % (3000 Hz) –2 % Variation range –2 %	Frequency counter (Digital counter)	VTT-656
3. Wow & flutter	0.28 % or less (JIS WRMS)	Wow meter	VTT-656
4. Torque of the take-up reel	PLAY: 28– 70 g.cm FF: 50–100 g.cm REW: 50–100 g.cm		–
5. Current consumption (Motor only)	PLAY: 160 mA or less FF: 250 mA or less REW: 250 mA or less	DC ammeter	C-60 Use one with no irregularities in take-up torque.
6. Clamping force of the pinch roller	200–280 g	To be measured when the pinch roller stops rotating after being pulled in the horizontal direction with the tension gauge.	
7. Thrust wobble of the flywheel	0.05–0.2 mm	Clearance gauge	–
8. Head adjustment for PLAY		In the PLAY mode, the clearance should be within the value shown on the left. Also be sure neither corner of the head comes into contact with the cassette shell.	Any type of cassette tapes
9. Head adjustment for CUE/REVIEW			
10. Auto stop operation	At a reduced voltage of 2,3 V, the unit should auto-stop within 10 sec. after winding is finished in PLAY, FF and REW modes.		Any type of cassette tape
11. Fast rewinding time	FF: 110 sec. or less REW: 110 sec. or less		C-60

Adjustment of Cassette Amplifier

(Conditions)

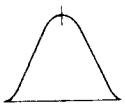
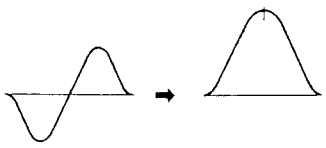
Power source : DC 4.5 V
Output : Speaker terminal 8 Ω load
Volume level : MAX.
Installation : Horizontal
Tape : Norm
TONE : High

Items	Test Tape	Alignment Methods	Alignment Point
1. Head azimuth	VTT-657 (8 kHz)	Adjust so that the output phase difference between L and R channels is minimum and that output is maximum.	Screw for playback head azimuth adjustment (fastening the head)
2. Tape speed adjustment and checking of wow & flutter	VTT-656 (3 kHz)	Adjust so that the electronic counter reads within 3,015 Hz ± 15 Hz. Wow & flutter should be 0.28% (WRMS) or less.	Semi-fixed resistor on the Governor C.B. VR501 
3. Checking of P.B. maximum output	VTT-662 (333 Hz)	Connect an electronic voltmeter to the speaker terminals so that the electronic voltmeter reads more than 2.8 V.	
4. Bias frequency adjustment		Connect a frequency counter to transistor Q302(B). Adjust so that the electronic counter reads 48 kHz.	T301 on the P.W.B.

Tuner Alignment

BASIC CONDITIONS

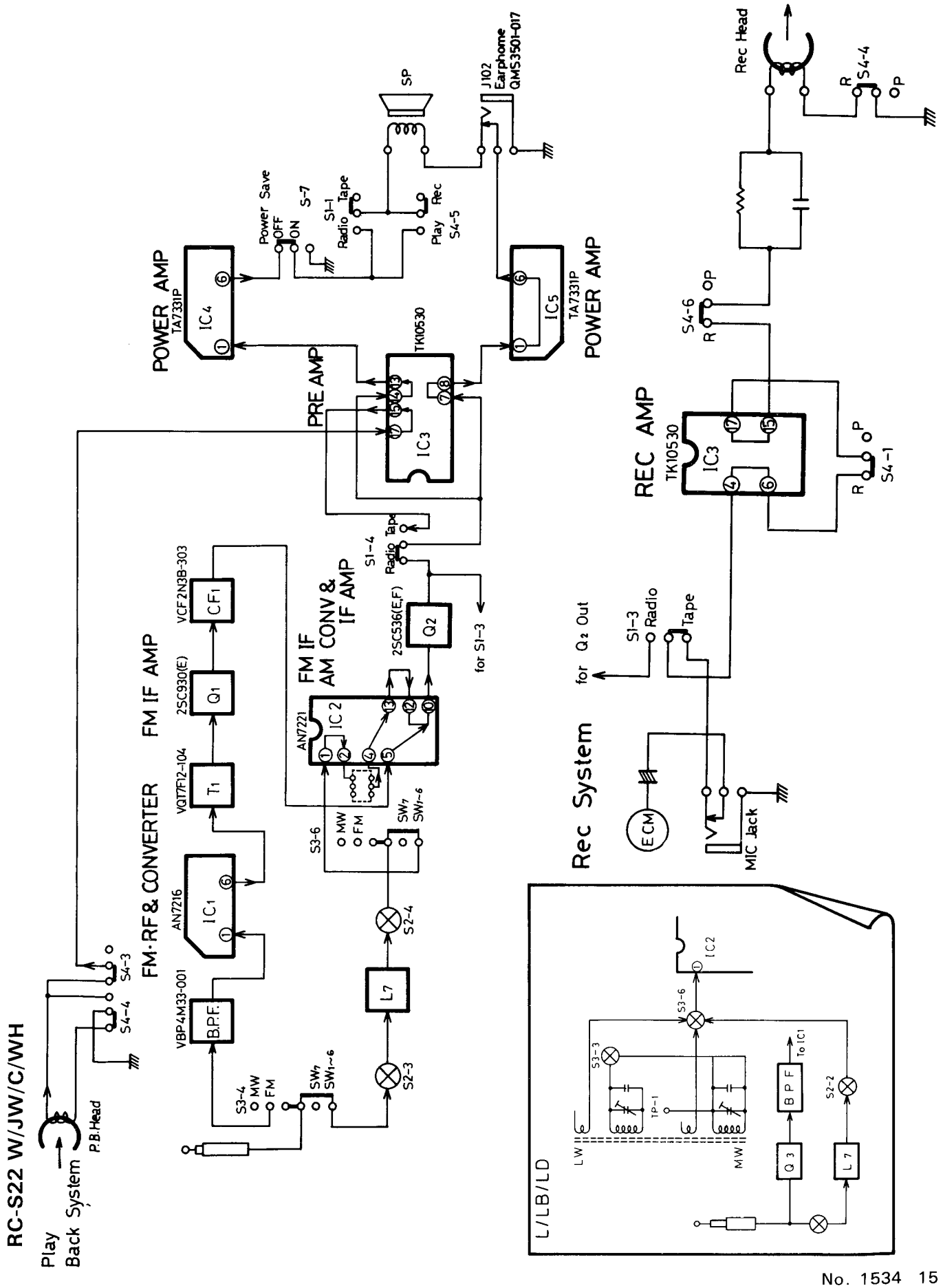
Power source of the receiver : DC 4.5 V, EXT. Jack 6 V
Load resistance of the receiver : 50 mW 0.63 V/8 Ω
Modulation of SSG : 400 Hz, 30%

Item	Description
1. AM IF Alignment	
1-1 Conditions of the receiver	
(1) Power source:	DC 4.5 V (When the power is supplied directly to the tuner in the receiver, the voltage should be adjusted to the proper level which shall be required by the tuner.)
(2) Function switch position:	RADIO
(3) Band select switch:	AM
(4) Volume control:	Minimum gain position
(5) Variable capacitor:	Near the minimum capacity position where no signal comes in.
1-2 Connection of Sweeper and the receiver	
(1) Tuner input:	Positive side to TP-1
(2) Tuner output:	Positive side to TP-2, Negative side to TP-4
1-3 Aligning position:	T3, T4
1-4 Alignment (Waveform): 	Adjust AM I.F.T. (above mentioned aligning position) so that maximum and symmetrical waveform can be obtained. In this case, the wavehead should be appeared at the center marker (455 kHz) on the scope of Sweeper.
2. FM IF Alignment	
2-1 Conditions of the receiver	
(1) Power source:	Same as mentioned in item 1-1
(2) Function switch position:	RADIO
(3) Band select switch:	FM
(4) Volume control:	Minimum gain position
(5) Variable capacitor:	Near the minimum capacity position where no signal comes in.
2-2 Connection of Sweeper and the receiver	
(1) Tuner input:	Positive side to TP-5
(2) Tuner output:	Positive side to TP-2, Negative side to TP-4
Note: a) Attach a capacitor (30 pF) and a resistor (30 kΩ) in series to the positive side cable which shall be led from Sweeper input. b) Attach a capacitor (30 pF) and a resistor (100 kΩ) in series to the positive side cable which shall be led from Sweeper output.	
2-3 Aligning position:	a) IF Waveform: T1 b) Discriminate Waveform: T2 ("S" curve waveform)
2-4 Alignment (Waveform): a) IF Waveform: 	Adjust the discriminate coil (T2) so that "S" curve waveform may be changed to IF waveform as shown in the figure (right). After the above, adjust T1 so that max. sensitivity and symmetrical IF waveform can be obtained on the scope of Sweeper.
b) Discriminator Waveform:	Adjust the discriminate T2 again so that the above symmetrical IF waveform may be changed to balanced "S" curve waveform.
3. AM RF Alignment	
3-1 Conditions of the receiver	
(1) Power source:	Same as mentioned in item 1-1
(2) Function switch position:	RADIO
(3) Volume control:	50 mW
(4) Tone control:	High
(5) Variable capacitor:	Refer to the following list shown in item 3-4.
3-2 Conditions of SSG	
(1) Modulation:	Refer to the basic condition.
(2) Frequency:	Refer to the following list shown in item 3-4.
(3) Output level of the attenuator in SSG:	Approx. 50 mW
3-3 Power output measuring position:	Speaker terminals

3-4 Alignment:

	Band Select Switch Position	Sort of Antenna to be attached to SSG	Frequency of SSG	Variable Capacitor Position	Aligning Position	
					C/W/JW/WH	L/LB/LD
1	AM	Loop Antenna	520 kHz	Max. capacity	L13	L13
2			1,650 kHz	Min. capacity	TC-5	TC-5
3			Adjust the above aligning position (L13 & TC-5) repeatedly so that the tuner can be received above frequency range (bandwidth).			
4			620 kHz	to be received 620 kHz	L5	L5
5			1,400 kHz	to be received 1,400 kHz	TC-3	TC-3
6			Adjust the above aligning position (L5 & TC-3) repeatedly so that the tuner can be obtained the best sensitivity.			
7	LW	Loop Antenna	145 kHz	Max. capacity	–	L14
8			360 kHz	Min. capacity	–	TC-12
9			Adjust the above aligning position (L14 & TC-12) repeatedly so that the tuner can be received above frequency range (bandwidth).			
10			160 kHz	to be received 160 kHz	–	L21
11			350 kHz	to be received 350 kHz	–	TC-4
12			Adjust the above aligning position (L21 & TC-4) repeatedly so that the tuner can be obtained the best sensitivity.			
Note: Adjust shortwave using a digital S.S.G. so that its adjusting frequency is within ±10 kHz.						
1	SW1	Dummy Antenna	5.93 MHz	Max. capacity	L15	L15
2			6.3 MHz	Min. capacity	TC-6	TC-6
3			Adjust the above aligning position (L15 & TC-6) repeatedly so that the tuner can be received above frequency range (bandwidth).			
4			6.15 MHz	to be received 6.15 MHz	L7	L7
5	SW2	Dummy Antenna	7.08 MHz	Max. capacity	L16	L16
6			7.45 MHz	Min. capacity	TC-7	TC-7
7			Adjust the above aligning position (L16 & TC-7) repeatedly so that the tuner can be received above frequency range (bandwidth).			
8			7.25 MHz	to be received 7.25 MHz	L8	L8
9	SW3	Dummy Antenna	9.48 MHz	Max. capacity	L17	L17
10			9.9 MHz	Min. capacity	TC-8	TC-8
11			Adjust the above aligning position (L17 & TC-8) repeatedly so that the tuner can be received above frequency range (bandwidth).			
12			9.65 MHz	to be received 9.65 MHz	L9	L9
13	SW4	Dummy Antenna	11.68 MHz	Max. capacity	L14	L18
14			12.1 MHz	Min. capacity	TC-9	TC-9
15			Adjust the above aligning position (L14, L18 & TC-9) repeatedly so that the tuner can be received above frequency range (bandwidth).			
16			11.85 MHz	to be received 11.85 MHz	L10	L10
17	SW5	Dummy Antenna	15.08 MHz	Max. capacity	L19	L19
18			15.6 MHz	Min. capacity	TC-10	TC-10
19			Adjust the above aligning position (L19 & TC-10) repeatedly so that the tuner can be received above frequency range (bandwidth).			
20			15.3 MHz	to be received 15.3 MHz	L11	L11
21	SW6	Dummy Antenna	17.68 MHz	Max. capacity	L20	L20
22			18.0 MHz	Min. capacity	TC-11	TC-11
23			Adjust the above aligning position (L20 & TC-11) repeatedly so that the tuner can be received above frequency range (bandwidth).			
24			17.8 MHz	to be received 17.8 MHz	L12	L12

Block Diagram



Main Amp. P.W. Board Parts List

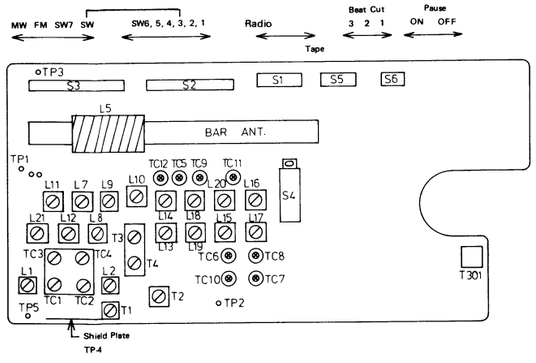
Ref. No.	Parts No.	Parts Name	Remarks
34	–	Main P.W. Board (Tuner) (See P20)	
VC1,2,3,4			
TC1,2,3,4,	QAP1224-703	V. Capacitor	
5,6,7,8,			
10,11,12	QAT3001-053	T. Capacitor	
S4-1...4-6	QSS6201-208	S. Switch	
S3-1...3-6	QSS6401-051	"	
S2-1...2-4	QSS4601-001	"	
S1-1...1-4	QSS4201-074	"	
S5-1	QSS2301-402	"	
S6-1	QSS1201-024	"	
	VYTA480-002	Spacer	
S7-1...7-4	QSS4201-021	S. Switch	
L1	V03105-030	RF Coil	(FM)
L2	V03105-029	Osc. Coil	(FM)
L4	V03047-21	Inductor	RC-S22L(BS)/L(ES)/ LB(B)
L5	VQB012M-301	Ferrite Core Ant.	RC-S22U(B)
"	VQB012B-312	"	RC-S22L(BS)/L(ES)/ LD(B)
L7	VQR7012-608	SW Antenna Coil	
L8	" -609	"	
L9	" -603	"	
L10	" -604	"	
L11	" -605	"	
L12	" -606	"	
L13	VQM7U01-301	Osc. Coil	
L14	VQS7U01-302	"	RC-S22W(B)
"	VQS7T12-304	Antenna Coil	RC-L(BS)/L(ES)/CD(B)
L15	" -301	"	
L16	" -302	"	
L17	VQS7T10-301	"	
L18	VQS7T12-304	"	RC-S22W(B)
"	VQL7T19-301	"	RC-S22L(BS)/L(ES)/ LD(B)
L19	VQS7T12-305	"	
L20	VQS7T12-306	"	
L21	VQB012B-312	Ferrite Core Ant.	RC-S22L(BS)/L(ES)
"	VQR7012-607	"	RC-S22W(B)
T1, 2	VQT7F12-104	I.F.T.	
T3,4, CF2	VQT7A32-101	"	
T301	VQH7001-001	Bias Osc. Coil	
BP, F1	VBP4M3B-001	B.P. Filter	
CF1	VCF2F3B-303	C. Filter	
J101	QMS3501-017	Mic. Jack	
J102	" -017	E.P. Jack	
IC1	AN7216	I.C.	
IC2	AN7221	"	
IC3	TK10530F	"	
IC4, 5	TA7331P	"	
Q1	2SC930(E)	Transistor	
Q2, 302	2SC536(E,F)	"	
Q301	2SA684(R,S)	"	
Q3	2SC930(F)	"	RC-S22L(BS)/L(ES)/ LD(B)
D1	MA345	Varicap	RC-S22L(BS)/L(ES)/ W(B)
D2	KB369	Z. Diode	
D4	MA165	Si. Diode	RC-S22L(BS)/L(ES)/ LD(B)
D3, 101	MA165	"	
D301	MA165	"	
D302	HZ3C2	Z. Diode	
C1	QCF81HZ-103	C. Capacitor	
C2	QCY81EK-473	"	

Ref. No.	Parts No.	Parts Name	Remarks
C3	QCS81HK-220	C. Capacitor	
C5	QCC11EM-103	"	
C6	QCT05CH-5R0	"	RC-S22L(BS)/L(ES)
C7	QCT05TH-240	"	RC-S22LD(B)
"	QCT05TH-180	"	RC-S22L(BS)/L(ES)
C8	QCT05CH-5R0	"	
C9	QCT05CH-150	"	
C10	QCY81EK-473	"	
C11	QCF81HZ-103	"	
C13	QCC11EM-223	"	
C14	QCY81HK-152	"	
C15	QCY81EK-223	"	
C16	QCF81HZ-473	"	
C17	QCS81HK-470	"	
C18	QEK40JM-336	E. Capacitor	
C19	QEK41CM-106	"	
C20	QCF81HZ-223	C. Capacitor	
C21	QCY81EK-473	"	
C22	QEK HM-104	E. Capacitor	
C23	QEU40JM-477	"	
C24	QCC11EM-473	C. Capacitor	RC-S22LD(B)/W(B)
"	QCC11EM-223	"	RC-S22L(BS)/LES
C25	QCY81EK-333	"	
C26	QCS11HJ-150	"	
"	QCS81HK-220	"	RC-S22W(B)
C28	QCY81EK-333	"	
C29	QCS11HJ-2R0	"	
C30	QCS81HK-2R0	"	
C31, 33	QCS11HJ-4R0	"	
C34	QCS11HJ-390	"	
C35	QCF81HZ-103	"	
C36	QCS81HK-150	"	
C37	QCT05TM-180	"	RC-S22W(B)
"	QCS11HJ-390	"	RC-S22L(BS)/L(ES)/ LD(B)
C38	QCS81HK-361	"	
C39	QCT05CH-7R0	"	RC-S22W(B)
"	QFS21HJ-181	P.P. Capacitor	RC-S22L(BS)/L(ES)/ LD(B)
C40	QCT05CH-100	C. Capacitor	
C41	QCT05YL-5R0	"	
C42	" -4R0	"	
C43	QCT05UJ-220	"	
C44	QCT05YL-2R0	"	
C46	QCT05WK-8R0	"	
C47	QEK41HM-105	E. Capacitor	
C48	QCT05CH-5R0	C. Capacitor	RC-S22W(B)
C49	QEK41HM-104	"	RC-S22L(BS)/L(ES)
C50	" -105	"	
C51	QCT05CH-2R0	"	
C52	QCT05YL-3R0	"	
C53	QCS11HJ-151	"	RC-S22W(B)
C54	QCY81EK-473	"	RC-S22W(B)
"	" -223	"	RC-S22L(BS)/L(ES)/ LD(B)
C55	QCS81HK-101	"	RC-S22W(B)
"	" -470	"	RC-S22L(BS)/L(ES)/ LD(B)
C56	QEE40JM-106	T.E. Capacitor	
C57	QCS81HK-470	C. Capacitor	RC-S22W(B)
"	QCS11HJ-5R0	"	RC-S22L(BS)/L(ES)/ LD(B)
C58	QCT05CH-240	"	
C59	" -4R0	"	RC-S22W(B)

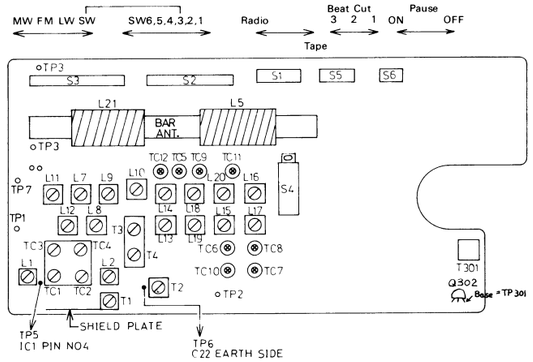
Item			Description			
25	SW7	Dummy Antenna	21.43 MHz	Max. capacity	L18	–
26			21.9 MHz	Min. capacity	TC-12	–
27			Adjust the above aligning position (L14 & TC-12) repeatedly so that the tuner can be received above frequency range (bandwidth).			
28			21.6 MHz	to be received 21.6 MHz	L21	–
4. FM RF Alignment 4-1 Conditions of the receiver (1) Power source: (2) Function switch position: (3) Band select switch: (4) Volume control: (5) Tone control: (6) Variable capacitor: 4-2 Condition of FM SSG (1) Modulation: (2) Frequency: (3) Output level of the attenuator in FM SSG:			Same as mentioned in item 1-1 RADIO FM 50 mW HIGH position Refer to the following list shown in item 4-3. Refer to the basic conditions. Refer to the following list shown in item 4-3. The level shall be decided by the load resistance of the receiver mentioned in the basic conditions.			
4-3 Alignment:						
	Band Select Switch Position	**Sort of Antenna to be attached to SSG**	**Frequency of FM SSG**	**Variable Capacitor Position**	**Aligning Position C/W/JW/WH**	**Aligning Position L/LB/LD**
1	FM	Dummy Antenna (75 Ω unbalanced antenna)	87.5 MHz	Max. capacity	L2	L2
2			109.0 MHz	Min. capacity	TC-2	TC-2
3			Adjust the above aligning position (L2 & TC-2) repeatedly so that the tuner can be received above frequency range (bandwidth).			
4			90 MHz	to be received 90 MHz	L1	L1
5			106 MHz	to be received 106 MHz	TC-1	TC-1
6			Adjust the above aligning position (L1 & TC-1) repeatedly so that the tuner can be obtained the best sensitivity.			

Parts Arrangement for Alignment

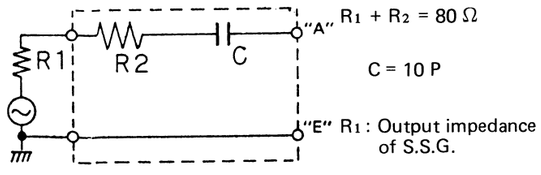
C/W/JW/WH



L/LB/LD



Dummy Antenna



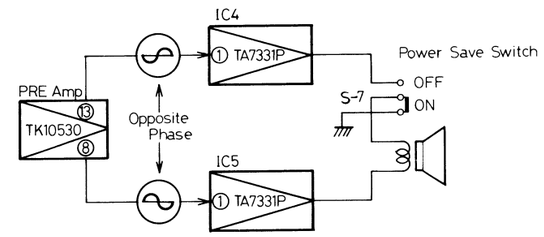
Power Save Switch

1. Purpose

As RC-S22 obtains high output power (1 watt or more) from low voltage (3 batteries = 4.5 V), its high current consumption makes battery life shorter.
However, when large sound volume is not needed, the Power Save Switch at ON saves power, thereby permitting extended battery life.

2. Circuit configuration

In RC-S22, a BTL amp circuit is used in its output stage to obtain high output power from low voltage.
Thus, power is saved when only one side of this amp is used with Switch ON. (See below.)



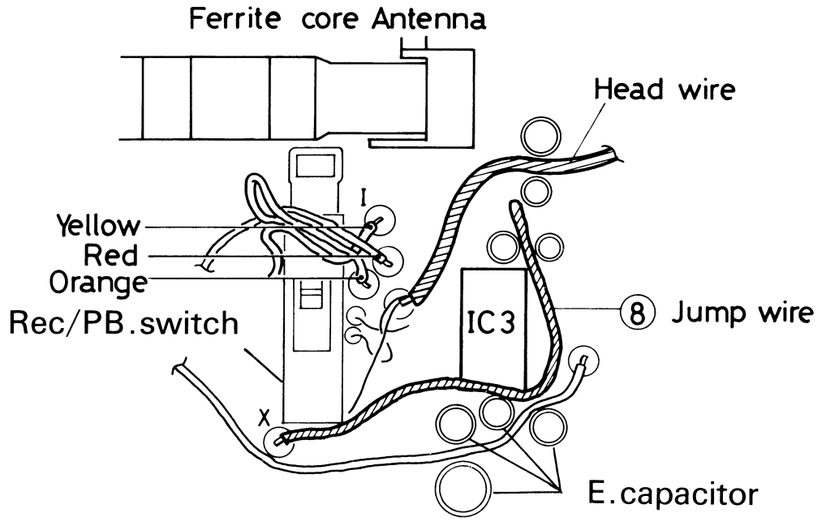
The output voltage at Switch ON is half that in normal condition.

Caution:

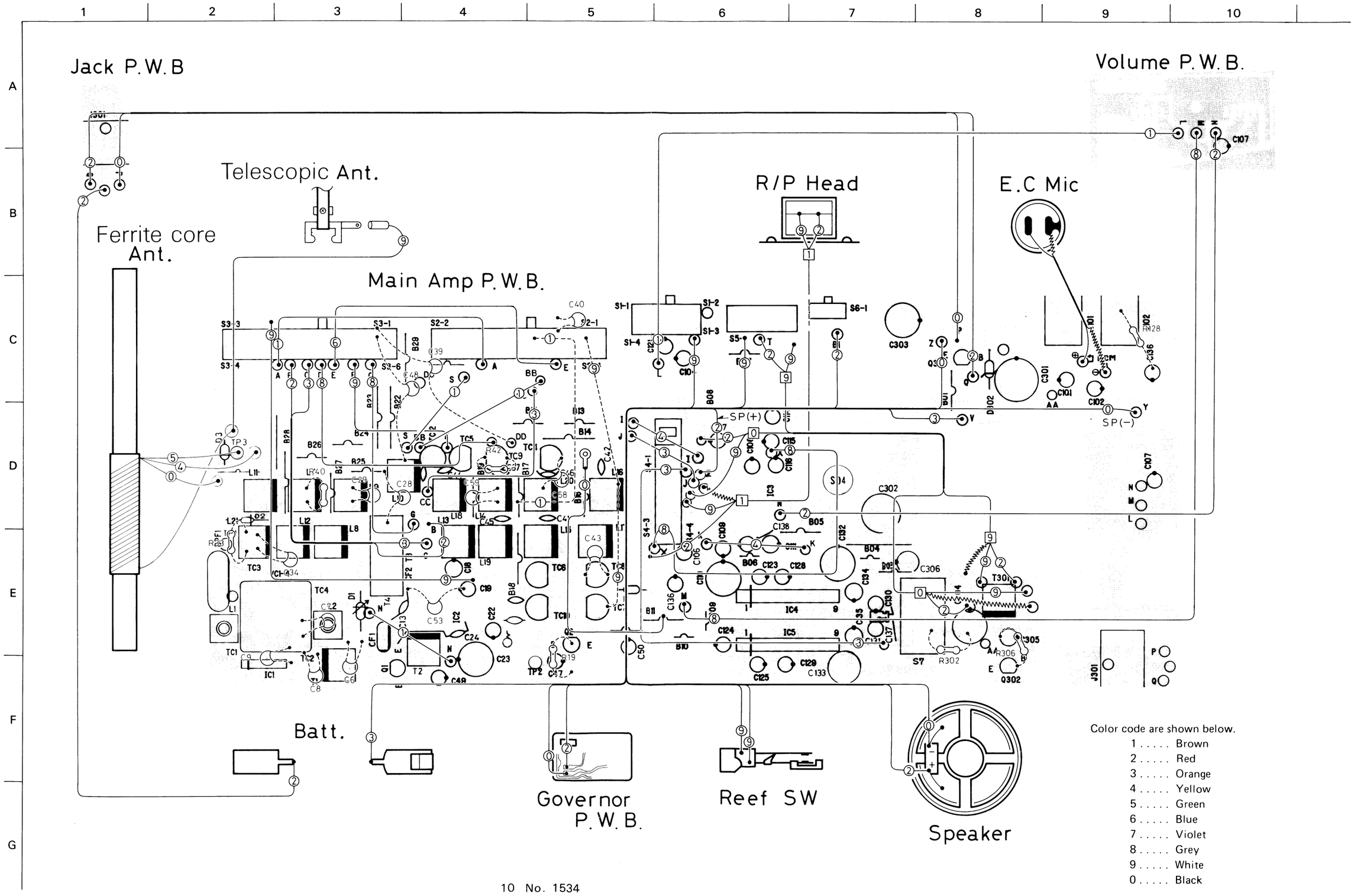
Wiring with which Playback Oscillation is Prevented

Perform wiring as instructed below so that the following jumper wires are away from the head wire and IC3.

1. Set aside jumper wires red, orange and yellow over the slide switch (REC/PB) towards the ferrite core antenna from the center of this switch so that they are away from the head wire.
2. Set aside X jumper wire (8) in the direction of the front (parallel with the capacitor) in which it is away from the head wire and IC3.



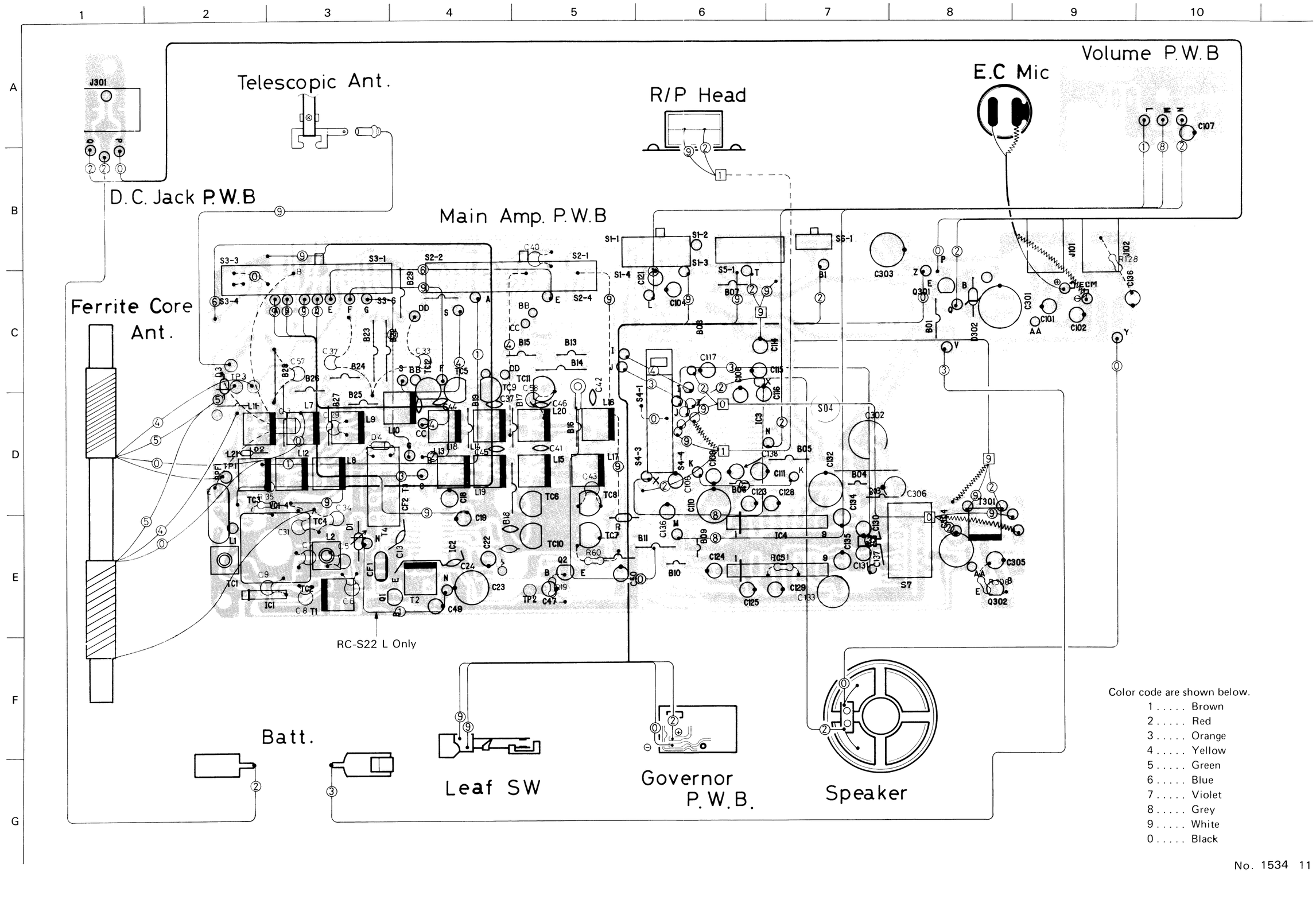
Wiring Connections of RC-S22 C/W/JW/WH



Color code are shown below.

1 ..... Brown
2 ..... Red
3 ..... Orange
4 ..... Yellow
5 ..... Green
6 ..... Blue
7 ..... Violet
8 ..... Grey
9 ..... White
0 ..... Black

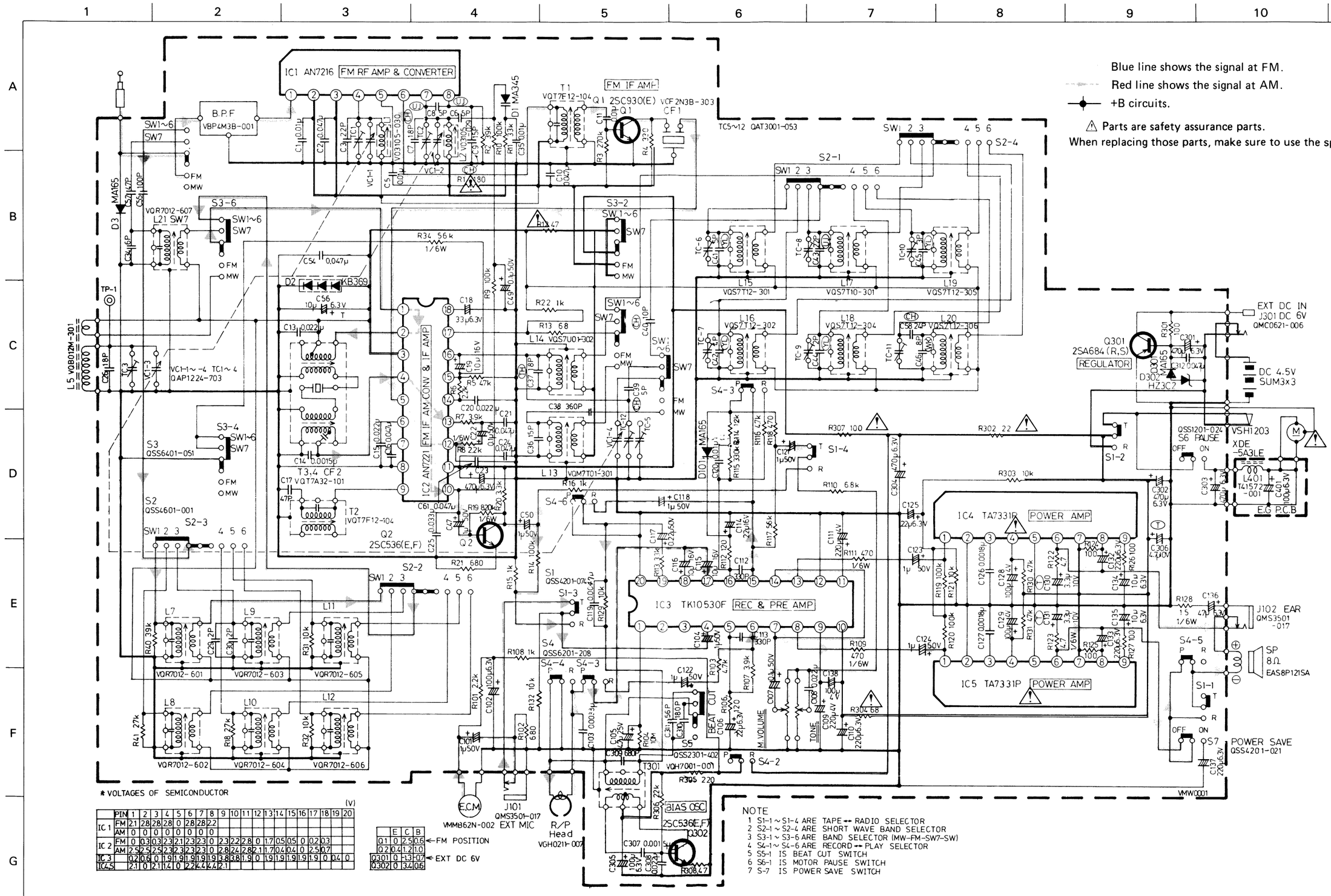
Wiring Connection of RC-S22 L/LB/LD



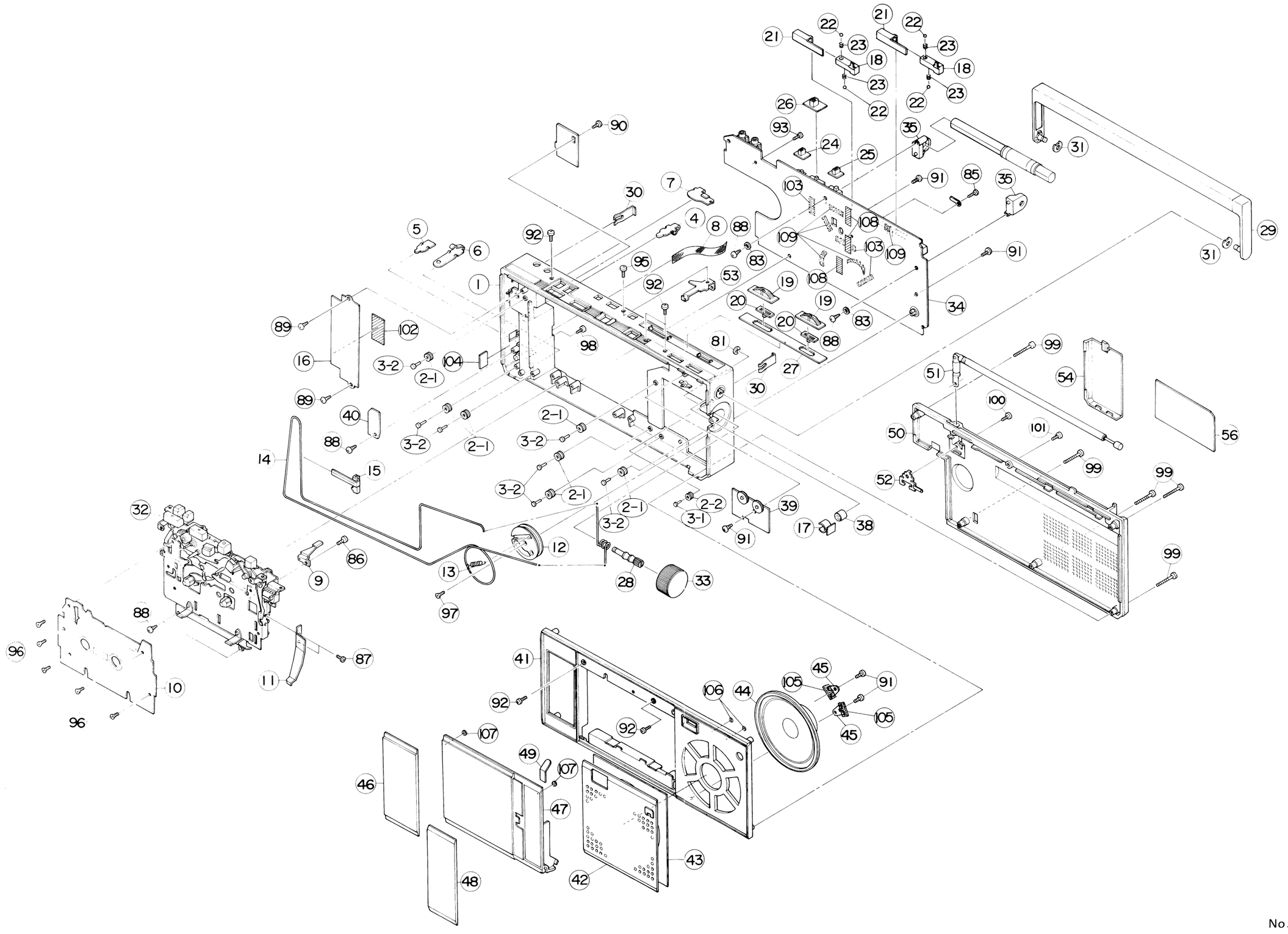
Color code are shown below.

1 . . . . . Brown
2 . . . . . Red
3 . . . . . Orange
4 . . . . . Yellow
5 . . . . . Green
6 . . . . . Blue
7 . . . . . Violet
8 . . . . . Grey
9 . . . . . White
0 . . . . . Black

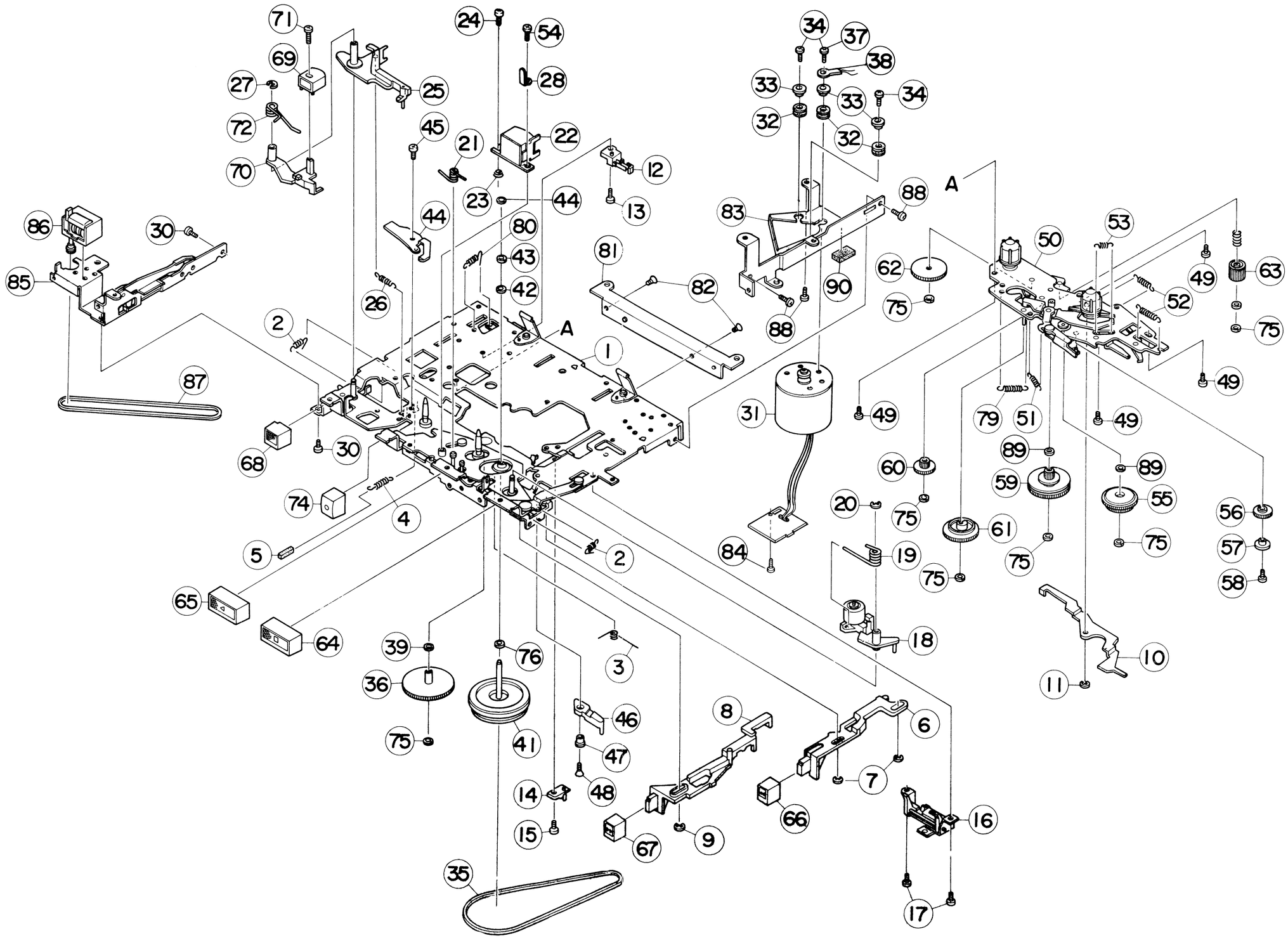
Standard Schematic Diagram of RC-S22 C/JW/W/WH



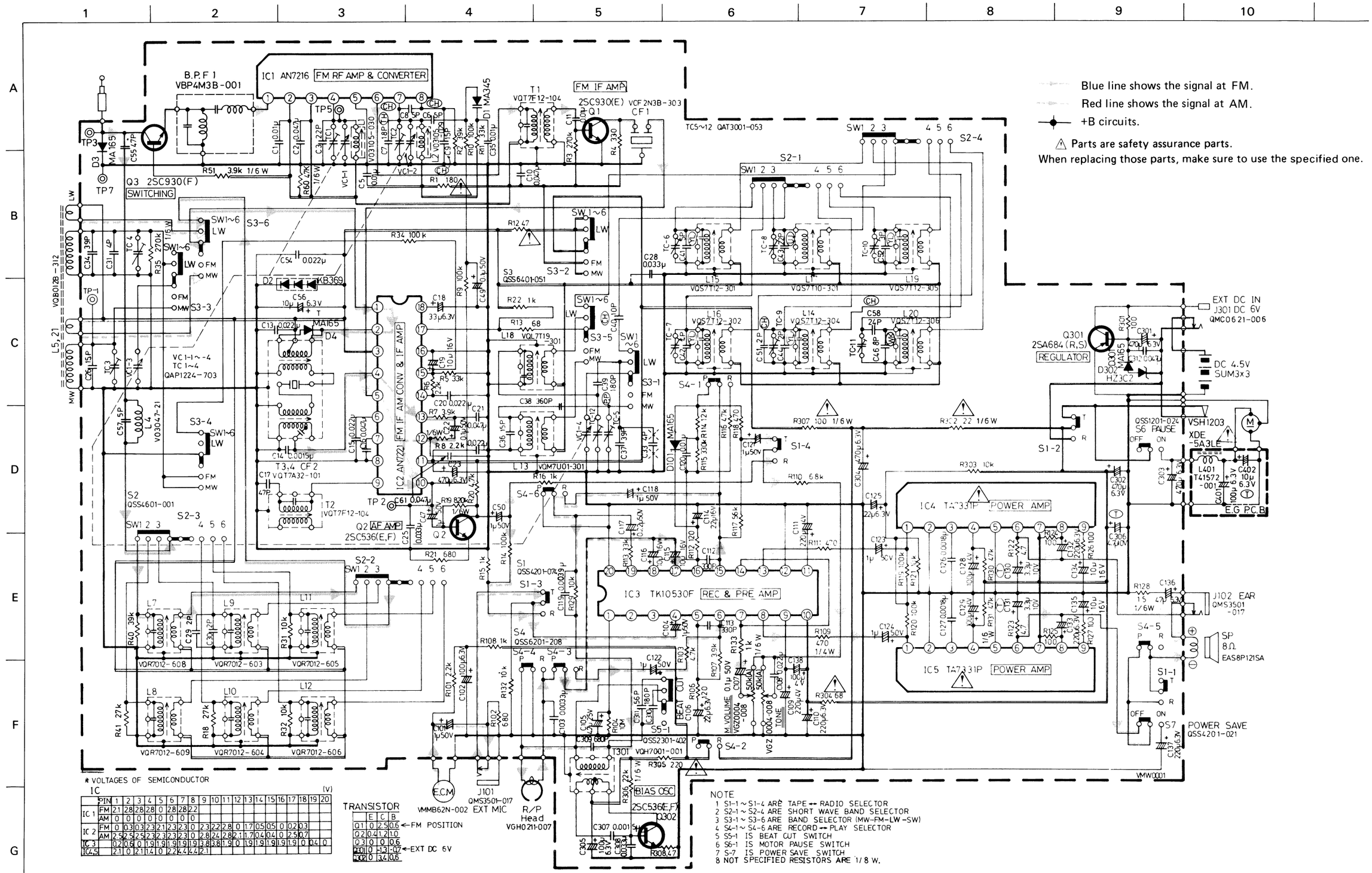
Enclosure Assembly and Electrical Parts



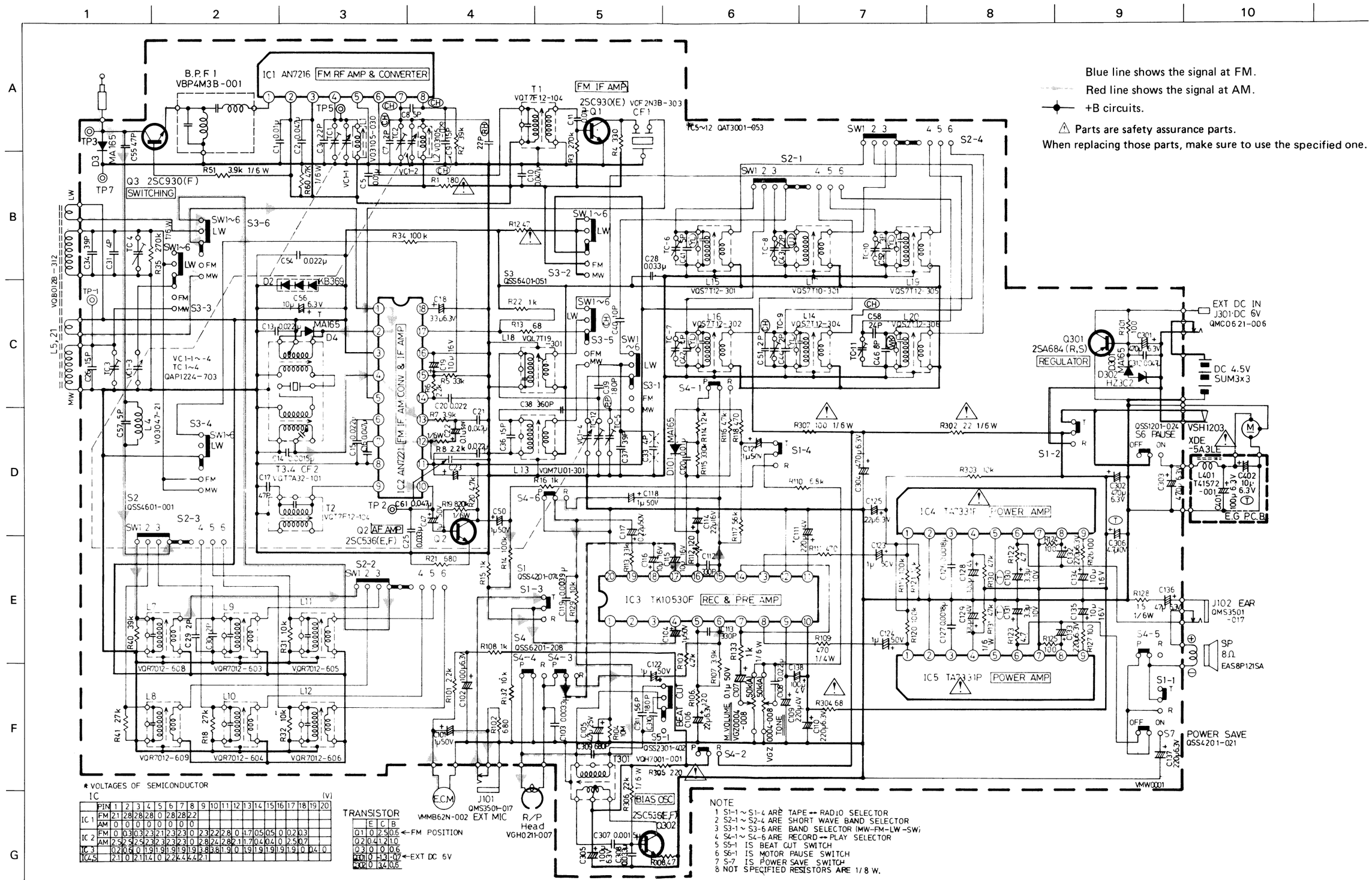
RC-S22 C/W/JW/WH/L/LB/LD



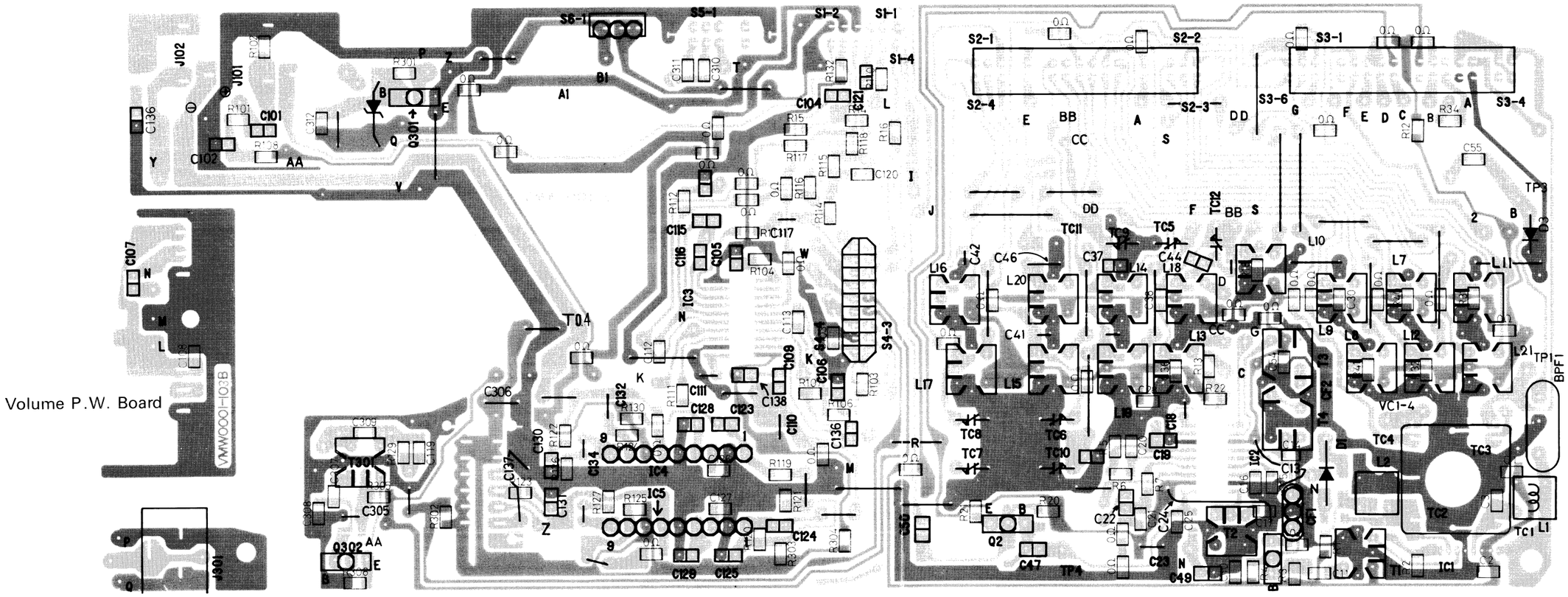
Standard Schematic Diagram of RC-S22 L/LB



Standard Schematic Diagram of RC-S22 LD



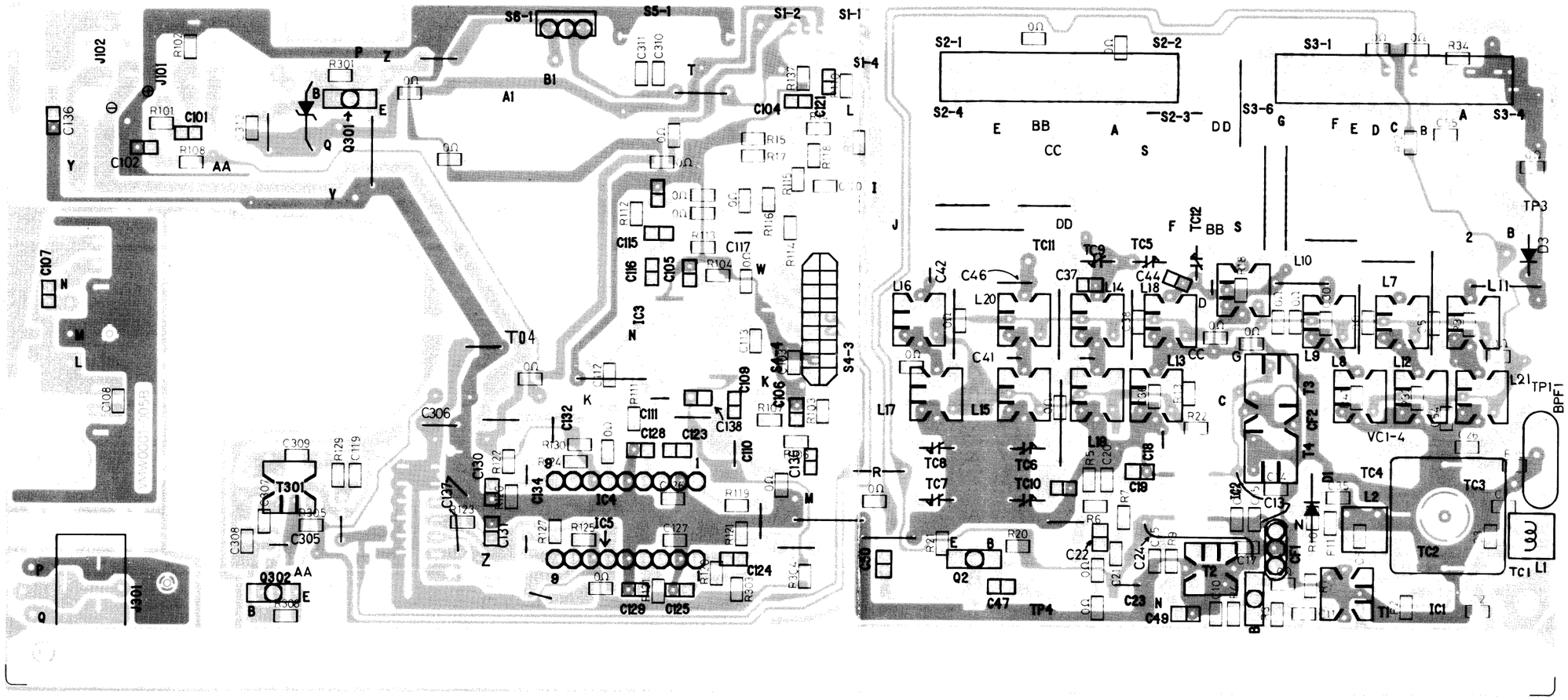
Main Amp. P.W. Board Parts of RC-S22 L/LB/LD



Volt

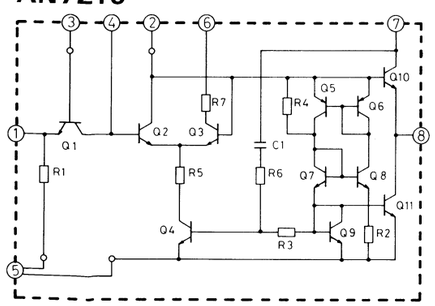
		E	C	B
Q1	2SC930(E)	0	0	0
Q2	2SC536(E,F)	0.4	1.2	1.0
Q301	2SA684(R,S)	0	4.1	4.0
Q302	2SC536(E,F)	0	0.1	0.1

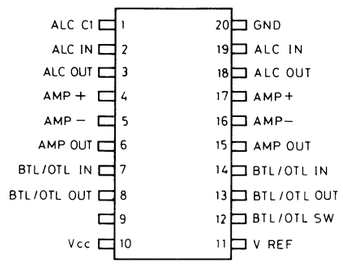
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
IC1,AN7216	FM	2.1	2.8	2.8	2.8	0	2.8	2.8	2.2												
	AM	0	0	0	0	0	0	0	0												
IC2,AN7221	FM	0	0.3	0.3	2.3	2.1	2.3	2.3	0	2.3	2.2	2.8	0	1.7	0.5	0.5	0	0.2	0.3		
	AM	2.5	2.5	2.5	2.3	2.3	2.3	2.3	0	2.8	2.4	2.8	2.1	1.7	0.4	0.4	0	2.5	0.7		
IC3,TK10530		0.2	0.6	0	1.9	1.9	1.9	1.9	1.9	3.8	3.8	1.9	0	1.9	1.9	1.9	1.9	1.9	0	0.4	0
IC4~5,TA7331P		2.1	0	2.1	1.4	0	2.2	4.4	4.4	2.1											



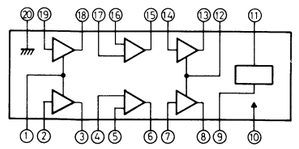
Integrant Circuit

AN7216

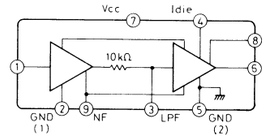




TK10530



TA7331P



Ref. No.	Parts No.	Parts Name	Remarks
C61	QCS11HJ-4R0	C. Capacitor	RC-S22LD(B)/W(B)
	QCC11EM-473	"	RC-S22L(BS)/L(ES)
C101	QEK41HM-105	E. Capacitor	
C102	QEK40JM-107	"	
C103	QCY81HK-332	C. Capacitor	
C104	QEK41HM-105	E. Capacitor	
C105	QEK41EM-475	"	
C106	QEK40JM-226	"	
C107	QEK41HM-104	"	
C108	QCY81EK-223	C. Capacitor	
C109	QEK40GM-227	E. Capacitor	
C110	QEK40JM-227	"	
C111	QEK40GM-227	"	
C112	QCS81HK-331	C. Capacitor	
C113	QCS81HK-331	"	
C114	QEK41CM-226	E. Capacitor	
C115	" -106	"	
C116	" -106	"	
C117	QEK41HM-224	"	
C118	" -105	"	
C119	QCY81HK-472	C. Capacitor	RC-S22W(B)
"	" -392	"	RC-S22L(BS)/L(ES)/ L(DB)
C120	" -103	"	
C121–124	QEK41HM-105	E. Capacitor	
C125	QEK40JM-226	"	
C126–127	QCY81HK-182	C. Capacitor	
C128–129	QEK40GM-107	E. Capacitor	
C130–131	QEE51AM-335	T.E. Capacitor	
C132, 133	QEK40JM-227	E. Capacitor	
C134, 135	QEK41CM-106	"	
C136	QEK40JM-476	"	
C137	" -227	"	
C138	QEK40GM-107	"	
C301–303	QEU40JM-477	"	
C304	QET20JM-477	"	
C305	QEK40JM-107	"	
C306	QEE51AM-475	T.E. Capacitor	
C307	QCY81HK-152	C. Capacitor	
C308	QCY81EK-223	"	RC-S22W(B)
"	" -333	"	RC-S22L(BS)/L(ES)/ LD(B)
C309	QCY81HK-681	"	
C310	QCS81HK-181	"	
C311	" -560	"	
C312	QCY81EK-473	"	
R1	QRS188J-181	M.G. Resistor	
R2	" -393	"	
R3	" -274	"	
R4	" -331	"	
R5	" -473	"	RC-S22W(B)
	" -333	"	RC-S22L(BS)/L(ES)/ LD(B)
R6	" -222	"	
R7	" -392	"	
R8	QRD161J-222	C. Resistor	RC-S22L(BS)/L(ES)
R9	QRS188J-104	M.G. Resistor	"
R10	" -104	"	"
R11	" -333	"	"
R12	" -470	"	
R13	" -680	"	
R14	" -104	"	
R15	" -102	"	
R16	" -102	"	
R18	QRS188J-273	M.G. Resistor	
R19	QRD161J-824	C. Resistor	
R20	QRS188J-332	M.G. Resistor	RC-S22W(B)
"	" -472	"	RC-S22L(BS)/L(ES)/ LD(B)
R21	" -681	"	
R22	" -102	"	
R31	" -103	"	
R32	" -103	"	
R33	QRD161J-102	C. Resistor	RC-S22W(B)
R34	" -104	"	RC-S22L(BS)/L(ES)/ LD(B)
"	" -563	"	RC-S22W(B)
R35	" -274	"	
R40	QRS188J-393	M.G. Resistor	
R41	" -273	"	
R42	" -562	"	RC-S22W(B)
"	" -103	"	RC-S22L(BS)/L(ES)
R51	QRD161J-392	C. Resistor	RC-S22L(BS)/L(ES)/ LD(B)
R60	" -473	"	RC-S22L(BS)/L(ES)/ LD(B)
R101	QRS188J-222	M.G. Resistor	
R102	" -681	"	
R103	" -472	"	
R104	" -106	"	
R106	" -121	"	
R107	" -392	"	
R108	" -102	"	
R109	QRD141J-471S	C. Resistor	
R110	QRS188J-682	M.G. Resistor	
R111	" -471	"	
R112	" -121	"	
R113	" -333	"	
R114	" -123	"	
R115	" -334	"	
R116	" -472	"	
R117	" -563	"	
R118	" -471	"	
R119	" -104	"	
R120	" -104	"	
R121	" -103	"	
R122	" -4R7	"	
R123	" -4R7	"	
R124–127	" -101	"	
R128	QRD161J-150	C. Resistor	
R129	QRS188J-103	M.G. Resistor	
R130	" -473	"	
R131	QRD161J-473	C. Resistor	
R132	QRS188J-103	M.G. Resistor	
R133	QRD161J-102	C. Resistor	RC-S22L(BS)/L(ES)/ LD(B)
R301	QRS188J-101	M.G. Resistor	
R302	" -220	"	
R303	" -103	"	
R304	" -680	"	
R305	" -221	"	
R306	QRD161J-223	C. Resistor	
R307	" -101	"	
R308	QRS188J-4R7	M.G. Resistor	
—	QRS188J-0R0	"	Q'ty 32
—	F00411-01	Lug	

Other P.W. Board

Ref. No.	Parts No.	Parts Name	Remarks
[Volume P.W. Board]			
VR1, 2	VGZ0004-008	V. Resistor	
[Jack P.W. Board]			
J301	QMA0621-006	DC Jack	

Enclosure Assembly and Electrical Parts List

⚠	Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	1	VJC1276-001	Chassis Base	RC-S22JW(JS)	1
	"	" -003	"	RC-S22L(BS)/L(ES)	1
	"	" -004	"	RC-S22LD(B)	1
	"	" -012	"	RC-S22C/JW(JB)/W(B)/W(BB)	1
	2-1	VYH4585-005	Roller		7
	2-2	" -004	"		1
	3-1	VYH4034-001	Stud		1
	3-2	VYH5366-001	Roller Stud		7
	4	VYH5142-001	Battery Contact		1
	5	VYH5185-001	"		1
	6	VYH5195-001	"		1
	7	VYH5196-001	"		1
	8	VJD4017-003	Ribbon		1
	9	VKY4305-001	Rec. Spring		1
	10	VJD3368-003	Inner Lay		1
	11	VYH5186-001	Door Spring		1
	12	VYH5144-001	Drum		1
	13	VKW3002-148	Tension Spring		1
	14	VHR2ZK9-03AT	Dial Cord	850 mm	1
	15	VJN4075-001	Pointer		1
	16	VJK4197-003	Dial Scale	RC-S22L(EB)/LB(B)/W(B)/JW(JB)/C/W(BB)	1
	"	" -005	"	RC-S22L(ES)/L(BS)/JW(JS)	1
	17	VYN5024-001	Mic. Bushing		1
	18	VYH5145-003	Slide		2
	19	VXS4100-001	Band Knob		2
	20	VYH5189-001	Knob Spacer		2
	21	VYH3239-003	Clicker		2
	22	T41615-003	Ball		4
	23	VKW3001-095	Spring		4
	24	VXS4080-002	Slide Knob	PAUSE	1
	25	VXS4104-001	"	TAPE/RADIO	1
	26	VXS4081-002	"	BEAT CUT	1
	27	VJD4689-001	Plate	for Band	1
	28	VYH4009-011	Tuning Shaft		1
	29	VJH4019-00D	Handle Ass'y	RC-S22L(BS)/L(ES)/JW(JS)	1
		" -00H	"	RC-S22L(EB)/C/JW(JB)/W(B)/LD(B)/W(BB)	1
	30	VYH4584-001	Spring		2
	31	VYH4583-001	Spacer		2
	32	—	Mechanism Ass'y		1
	33	VXL4126-001	Tuning Knob		1
	34	—	Main P.W. Board Ass'y		1
	35	VYH5187-003	F. Core Antenna Holder		1
	38	VMMB62N-002	E.C. Mic.		1
	39	—	Volume Board Ass'y		1
	40	—	DC Jack Board Ass'y		1
	41,42,46	ZCRCS22Y-CBF-B	Front Cabinet Ass'y	Black	1
	"	ZCRCS22Y-CBF-S	"	Silver	1
			"	Black	1
	41	VJC2110-001	Front Cabinet	RC-S22JW(JS)/L(BS)/L(ES)/W(B)/W(BB)	1
	"	" -0012	"	RC-S22JW(JB)/C/L(EB)/LD(B)	1
	42	VJD3394-001	Speaker Panel	RC-S22JW(JS)/L(BS)/L(ES)/W(BB)	1
	"	" -002	"	RC-S22JW(JB)/C/L(EB)/LD(B)/W(B)	1

⚠ parts are safety assurance parts.
When replacing those parts, make sure to use the specified one.

⚠	Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	43	VYTT427-001	Sheet A		1
	44	EAS-8P121SA	Speaker		1
	45	VYH5167-001	Clamp		2
	46	VJK3208-005	Dial Lens	RC-S22LD(B)/L(EB)	1
	"	" -006	"	RC-S22L(BS)	1
	"	" -007	"	RC-S22W(B)/JW(JB)/C/W(BB)	1
	"	" -008	"	RC-S22JW(JS)	1
	47,49,107	ZCRCS22Y-CCA-S	Cassette Door Ass'y	Silver	1
	"	ZCRCS22Y-CCA-B	"	Black	1
	47	VJT3112-00F	Cassette Door Ass'y	RC-S22L(BS)/L(ES)	1
	"	" -00C	"	RC-S22W(B)/W(BB)/JW(JB)/C	1
	"	" -00E	"	RC-S22L(EB)	1
	"	" -00D	"	RC-S22JW(JS)	1
	"	" -00G	"	RC-S22LD(B)	1
	48	VJT4079-001	Cassette Cover	RC-S22L(BS)/L(ES)/JW(JS)/LD(B)	1
	"	" -002	"	RC-S22W(B)/W(BB)/C/JW(JB)/L(EB)	1
	49	VYH5256-001	Cassette Spring		1
	50, 56	ZCRCS22Y-CBR-S	Rear Cabinet Ass'y	Silver	1
	"	ZCRCS22Y-CBR-B	"	Black	1
	50	VJC2111-001	Rear Cabinet	RC-S22L(BS)/L(ES)/JW(JS)/W(BB)	1
	"	" -012	"	RC-S22LD(B)/L(EB)/JW(JB)/C/W(B)	1
	51	VJA3013-00A	Telescopic Antenna		1
	52	VYH4954-003	T. Antenna Holder		1
	53	VYH5334-001	Bracket		1
	54	ZCRCS22Y-BCA-S	Battery Cover		1
	"	ZCRCS22Y-BCA-B	"		1
	56	VYN5086-002C	Name Plate	RC-S22JW(JB)/JW(JS)	1
	"	" -003C	"	RC-S22W(B)	1
	"	" -004C	"	RC-S22C	1
	"	" -006C	"	RC-S22L(BS)/L(ES)/L(EB)	1
	"	" -007C	"	RC-S22LD(B)	1
	81	REE2500	E-Ring	T. Shaft	1
	83	Q03095-203	Washer	F. Core Antenna	2
	85	VKZ4013-001	Special Screw	Mecha. – P.W.B. x 1	1
	86	SPSK1716M	Mini Screw	Rec. Spring x 1	1
	88	SBSF2608Z	Tap. Screw	DC Jack x 1, F. Core Antenna Holder x 2, Mecha. Bracket – Chassis x 2	5
	89	F00410-24N	"	Chassis – D. Back x 2	2
	90	SBSF2008Z	"	Chassis – G.P.W. Board	1
	91	SBSF2606Z	"	Speaker x 2, Chassis – P.W.B. x 2, VR P.W.B. x 1	5
	92	SPSH1740N	Mini Screw	Front Cabinet – Chassis x 1, Mecha. – Chassis (Top) x 3, Bracket – F. Cabinet x 1	5
	95	SPSH1730N	"	Bracket – Chassis x 1, Mecha. Bracket – P.W.B. x 1	2
	96	SSSK1720M	"	Inner Lay x 5	5
	97	SSSH1740M	"	Drum x 1	1
	98	SPSF2612R	Tap. Screw	Chassis – Front x 1	1
	99	SPSF2625R	"	(F. Cabinet – Chassis – P.W.B. – R. Cabinet) x 5, Ant. – R. Cabinet x 1	6
	100	SPSP2606R	Screw		1
	101	SPSP2605R	Tap. Screw	Bracket – R. Cabinet x 1	1
	102	VYSS1R1-009	Spacer		1
	103	VYSA1R4-030	"		3
	104	VYSR102-026	"	DC Jack P.W.B. x 1	1

⚠	Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
	105	VYSA1R6-034	"		2
	106	VYSS2R2-004	"		2
	107	VYSA2R4-001	"		2
	108	VYSR103-019	"		3
	109	VYSA1R4-030	"		5

Mechanical Component Parts List

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
1	VKL2187-00E	Chassis Base Ass'y		1
2	VKW3002-103	Tension Spring	Stop Bar, Eject Bar	2
3	VKW3006-052	Torsion Spring	Play Bar	1
4	VKW3002-118	Tension Spring	Rec.	1
5	VKZ4139-001	Silencer		1
6	VKS3156-001	FF Bar		1
7	REE1500	E-Ring		2
8	VKS3157-002	Rew. Bar		1
9	REE2000	E-Ring		1
10	VKL5239-001	Switch Lever		1
11	REE1500	E-Ring		1
12	VSH1203-004	Leaf Switch	Motor	1
13	SPSK1725M	Mini Screw		1
14	VKS4472-002	Lock Adapter		1
15	SPSK1416M	Mini Screw		1
16	VKL5240-00E	Lock Cam Bracket Ass'y		1
17	SPSK1716M	Mini Screw		2
18	VKP4124-00A	Pinch Roller Arm Ass'y		1
19	VKW3006-047	Torsion Spring	Pinch Roller	1
20	REE2000	E-Ring		1
21	VKW3006-048	Torsion Spring	Head Base	1
22	VGH0211-007	R/P Head Ass'y		1
23	VKW4369-002	Azimuth Spring		1
24	SPSX2006N	Screw	Azimuth	1
25	VKS4472-002	Tape Guide Arm		1
26	VKW3002-102	Tension Spring	T. Guide	1
27	REE2000	E-Ring	E. Head Lever	1
28	VKZ4001-012	Wire Clamp		1
30	SPSK1725M	Mini Screw	Counter Bracket	2
31	XDE-5A3LD	Motor		1
32	VKZ4015-003	Rubber Bushing		3
33	VKH4375-001	Motor Bushing		3
34	SPSK1735M	Mini Screw		2
35	VKB3000-073	Belt		1
36	VKR4308-002	Sub Gear		1
37	SPSK1740N	Screw	Motor	1
38	F00411-01	Cug		1
39	Q03093-835	Washer		1
40	Q03093-846	Spacer		1
41	VKF3121-00F	Flywheel Capstan Ass'y		1
42	Q03093-830	Washer	Thrust	1
43	REE1600	E-Ring		1
44	VKY4263-003	Head Base Spring		1
45	SPSK1716M	Mini Screw		1
46	VKS4498-001	Cue Review Lever		1
47	VKH3013-015	Flange Collar	C.R. Lever	1
48	SSSK1735M	Mini Screw		1
49	SPSK1716M	"		4
50	VKL3436-00A	Reel Disk Bracket Ass'y		1
51	VKW3002-105	Tension Spring	Kick Lever	1
52	" -113	"	FF Rew. Bar	2
53	" -111	"	Take-up Lever	1
54	SPSP2004N	Screw	R/P Head	1
55	VKR4293-00A	Take-up Clutch Ass'y		1

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
56	VKR4296-001	FF Gear		1
57	VKH3013-016	Flange Collar		1
58	SSSK1420M	Mini Screw		1
59	VKR4297-00A	F.R. Clutch Ass'y		1
60	VKR4300-001	Middle Gear		1
61	VKR4301-001	Cam Gear		1
62	VKR4302-001	Rew. Gear (2)		1
63	VKR4303-001	" (1)		1
64	VXP4242-003	Stop Button		1
65	VXP4243-003	Play Button		1
66	VXP4244-003	FF Button		1
67	VXP4245-003	Rew. Button		1
68	VXP4246-003	Eject Button		1
69	VGH0212-406	Magnet Erase Head		1
70	VKS4475-002	E. Head Lever		1
71	VKZ4017-001	Special Screw		1
72	VKW4378-001	E. Head Lever Spring		1
74	VXP4262-002	Rec Button		1
75	VKZ4004-004	Special Washer		7
76	Q03093-838	Washer	Flywheel	1
79	VKW3002-107	Tension Spring	REW. Lever	1
80	" -121	"	REC. Safety	1
81	VYH5143-001	Lower Bracket		1
82	SPSK1720M	Mini Screw		2
83	VKL3441-001	Motor Bracket		1
84	SBSF2008Z	Screw		4
85	VKL5382-00B	Counter Bracket Ass'y		1
86	VKC5159-001T	Tape Counter		1
87	VKB3000-066	Belt		1
88	SPSK1720M	Mini screw	Motor Bracket	3
89	This DWD	Washer		2
90	UYSS1R3-001	Spacer	Motor Bracket	1

Packing

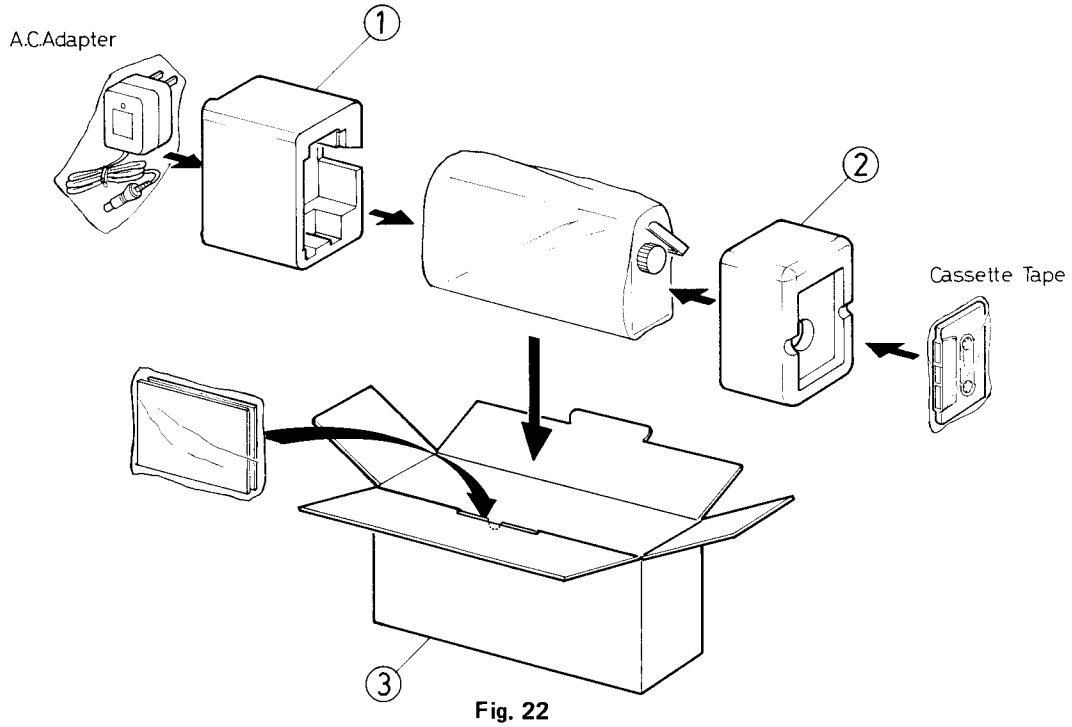


Fig. 22

Positions of controls and switch knobs at renewal packing:

TONE	:	MAX
VOLUME	:	MAX
BAND SELECTOR	:	MW/AM & SW6
FUNCTION	:	TAPE (RADIO STANDBY)
BEAT CUT	:	2
PAUSE	:	OFF
TUNING	:	Approx. 600 kHz
COUNTER	:	000
BATTERY SAVE	:	OFF

Ref. No.	Parts No.	Parts Name	Remarks	Q'ty
1	VGB0005-005	Cushion (L)		1
2	VGB0011-001	" (R)		1
3	VPD5086-J01	Carton	RC-S22W	1
"	" -J03	"	RC-S22JW	1
"	" -J09	"	RC-S22L(BS)/L(ES)/L(EB)	1
"	" -J19	"	RC-S22L(RS)	1
"	" -J17	"	RC-S22LD(B)	1
	VHPJ040-022	Paper Sheet	RC-S22W(B)	1
	QPGA007-01003	Poly Bag	for Siemens Plug	1
	QPGB017-02404	"	for Instruction Book	1
	E66146-003	"	for Warranty Card	1

Accessories

⚠	Parts No.	Parts Name	Remarks	Q'ty
	VYA4002-001	Short Plug		1
	VMA0914-301	Instruction Book	RC-S22L(BS)/LD(B)	1
	VNM0902-901	"	RC-S22C/W(B)/JW(JB)	1
	VNM0922-101	"	RC-S22W(BB)	1
	VGT12S2-J05	Cassette Tape		1
	VNF0894-001	Feature Sticker		1
	BT20060C	Guaranty Certificate	RC-S22L(BS)/LD(B)/L(ES)/L(EB)	1
	BT20066C	"		1
	VGB0005-006	AC Adaptor	RC-S22W(W(BB)	1
	VPZ4001-001	Serial Ticket	RC-S22L(BS)/L(ES)/L(EB)/LD(B)	1
	" -002	"	RC-S22L(RS)	1
	VNC5202-006	AC Adaptor Instruction	"	1
	BT20065	Warranty Card	RC-S22LD(B)	1
	BT20054-003A	Caution Sheet	"	1
	VGB0011-002	AC Adaptor	RC-S22C	1
	BT20025F	Warranty Card		1
	BT20013C	Guaranty Certificate	RC-S22W(BB)	1
	31465-18	Mark	"	1
	QME1308-004	Earphone	RC-S22W(B)	1
	V04062-001	Siemens Plug	"	1
	VGB0011-001	AC Adaptor	RC-S22JW(JB)	1
	BT20047A	Warranty Card	"	1
	BT20046B	Special Reply Card		1

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